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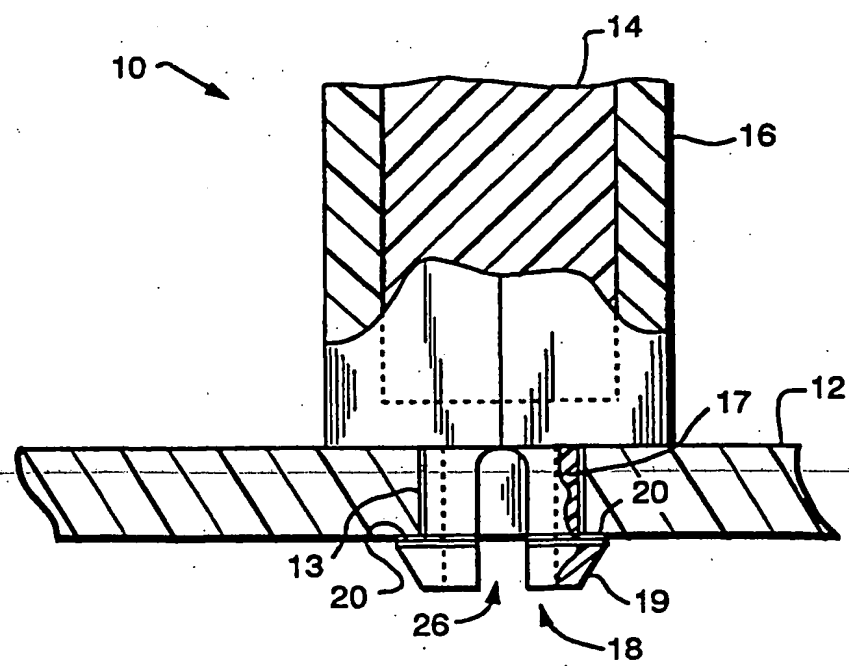
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(21) International Application Number: PCT/US96/06595 (22) International Filing Date: 9 May 1996 (09.05.96) (30) Priority Data: 08/438,604 10 May 1995 (10.05.95) US (71) Applicant: POLY-VAC, INC. [US/US]; 1015 Candia Road, Manchester, NH 03109 (US). (72) Inventors: LATULIPPE, Michael, L.; 91 Old Auburn Road, Derry, NH 03038 (US). LEPAGE, Albert, A., Jr.; 110 Dean Street, Norton, MA 02871 (US). (74) Agent: SOLOWAY, Norman, P.; Hayes, Soloway, Hennessey, Grossman & Hage, 175 Canal Street, Manchester, NH 03101 (US).		(81) Designated States: European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published With international search report. With amended claims.	
目的 器具の置き付けと滅菌トレイの提供。		特徴 トレイにあけた孔に、弾性的に引っかかる孔を持った置きえり付けするようにした。	



(54) Title: STERILIZATION SUPPORT AND STORAGE CONTAINER SYSTEM

(57) Abstract

A support (14, 16) for medical instruments is provided to securely grasp the instrument during sterilization and storage. The support (14, 16) can be readily rearranged on a sterilization tray (12) and can be securely locked in whatever position is desired. It employs a novel arrangement of locking bayonet fingers (17) and a simple removal tool (22) for changing location of the support.



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We claim:

1. In a sterilization tray assembly for sterilizing surgical instruments, said assembly including a structure 12 having a plurality of holes 13 and a resiliently deformable member for clasp ing surgical instruments; the improvement comprising a relatively rigid plastic support element 16 connected to said deformable member 14 and being for predeterminedly positioning said resiliently deformable member with respect to different holes 13 in said structure, wherein said relatively rigid support element has integrally formed fastening means 17 downwardly extending from a bottom surface of said support element and positioned to penetrate predetermined holes of said structure to lock said support element in position, said fastening means having heads 18 which extend through said predetermined holes when said fastening means penetrate said predetermined holes, each said head being adapted to be engaged by an opening of a removal tool 22 for deforming said heads when said heads extend through said predetermined holes to thereby release said fastening means from said predetermined holes, each said head comprising a plurality of outwardly extending shoulders 20 for engaging said structure when said heads extend through predetermined holes, said shoulders being separated by spaces 26 for permitting said heads to collapse to a size smaller than said predetermined holes when said tool engages said heads whereby to disengage said shoulders from said structure.

2. The assembly of claim 1, wherein said heads 18 each comprise a conical surface 19 for being engaged by said tool 22 and a shoulder 20 for engaging said structure when said heads extend through said predetermined holes whereby to lock said support element in position.

3. The assembly of claim 1 wherein said fastening means comprises at least two fingers 17.

4. The assembly of claim 1 wherein said fastening means have tapered ends 19.

5. The assembly of claim 1, wherein each said head 18 comprises a plurality of shoulders 20.

6. In a combination including a sterilization tray assembly for sterilizing surgical instruments, said assembly including a structure 12 having a plurality of holes 13 and a resiliently deformable member 14 for clasp ing surgical instruments; the improvement

comprising a relatively rigid plastic support element 16 connected to said deformable member and being for predeterminedly positioning said resiliently deformable member with respect to different holes in said structure, and said relatively rigid support element 16 has integrally formed fastening means including fingers 17 having respective tapered heads 18 and downwardly extending from a bottom surface of said support element and positioned to penetrate predetermined holes 13 of said structure to lock said support element in position, said combination also including a removal tool 22 for releasing said fingers 17 from predetermined holes 13 into which said fingers have penetrated, said tool including an opening 24 adapted and operatively positioned to engage the tapered head 18 on each said finger 17 when said fingers penetrate said predetermined holes whereby to deform said fingers to release said fingers from said predetermined holes, said opening 24 being slightly smaller than said hole 13.

7. The assembly of claim 6 wherein said tapered ends 19 are conically shaped.
8. The combination of claim 6 wherein said fastening means comprises at least two fingers 17 having partial conical surfaces 19, and the holes 13 in the structure 12 and the opening 24 of the tool 22 are both circular.
9. The combination of claim 6, wherein said fingers 17 also include surfaces 20 for extending out of said predetermined holes 13 and engaging said structure 12 when said fingers penetrate said holes.
10. The combination of claim 6, wherein the heads 18 of said fingers 17 each comprise a conical surface 19 for being engaged by said tool 22 and a shoulder 20 for engaging said structure 12 when said fingers 17 penetrate said predetermined holes 13.
11. The combination of claim 6, wherein each said head 18 comprises a plurality of shoulders 20 for engaging said structure when said fingers 17 penetrate said predetermined holes 13, said shoulders 20 being separated by spaces 26 for permitting said heads to collapse to a size smaller than said predetermined holes 13 when said tool 22 engages said heads whereby to disengage said shoulders 20 from said structure 12.

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AMENDED CLAIMS

[received by the International Bureau on 21 August 1996 (21.08.96);
original claims 1-11 replaced by amended claims 1-11 (3 pages)]

1
2 1. In a sterilization tray assembly for sterilizing surgical instruments, said
3 assembly including a structure (12) having a plurality of straight walled holes (13) and
4 a resiliently deformable member for clasp ing surgical instruments; the improvement
5 comprising a relatively rigid plastic support element (16) connected to said
6 deformable member (14) and being for predeterminedly positioning said resiliently
7 deformable member with respect to different holes (13) in said structure, wherein said
8 relatively rigid support element has integrally formed fastening means (17)
9 downwardly extending from a bottom surface of said support element and positioned
10 to penetrate predetermined holes of said structure to lock said support element in
11 position, said fastening means comprising a plurality of flexible fingers (17) having
12 sufficient length to extend through said holes, said fingers having enlarged heads (18)
13 which extend beyond said predetermined holes when said fastening means penetrate
14 said predetermined holes, each said head being constructed to be engaged by an
15 opening of a removal tool (22) for deforming said heads when said heads extend
16 through said predetermined holes to thereby release said fastening means from said
17 predetermined holes, each said head comprising a plurality of outwardly extending
18 shoulders (20) for engaging said structure whereby to lock said support element in
19 position when said heads extend through predetermined holes, said shoulders being
20 separated by spaces (26) for permitting said heads to collapse to a size smaller than
21 said predetermined holes when said tool engages said heads whereby to disengage
22 said shoulders from said structure.

23 ~~2.~~ The assembly of claim 1, wherein said heads (18) each comprise a conical
24 surface (19) for being engaged by said tool (22) and a shoulder (20) for engaging said
25 structure when said heads extend through said predetermined holes whereby to lock
26 said support element in position.

27 ~~3.~~ The assembly of claim 1 wherein said fastening means comprises at least
28 two fingers (17).

29 ~~4.~~ The assembly of claim 1 wherein said fastening means have tapered ends
30 (19).

1 ~~5.~~ The assembly of claim 1, wherein each said head (18) comprises a plurality
2 of shoulders (20).

3 6. In a combination including a sterilization tray assembly for sterilizing
4 surgical instruments, said assembly including a structure (12) having a plurality of
5 holes (13) and a resiliently deformable member (14) for clasp ing surgical instruments;
6 the improvement comprising a relatively rigid plastic support element (16) connected
7 to said deformable member and being for predeterminedly positioning said resiliently
8 deformable member with respect to different holes in said structure, and said
9 relatively rigid support element (16) has integrally formed fastening means including
10 fingers (17) having respective tapered heads (18) and downwardly extending from a
11 bottom surface of said support element and positioned to penetrate predetermined
12 holes (13) of said structure to lock said support element in position, said combination
13 also including a removal tool (22) for releasing said fingers (17) from predetermined
14 holes (13) into which said fingers have penetrated, said tool including an opening (24)
15 adapted and operatively positioned to engage the tapered head (18) on each said
16 finger (17) when said fingers penetrate said predetermined holes whereby to deform
17 said fingers to release said fingers from said predetermined holes, said opening (24)
18 being slightly smaller than said hole (13).

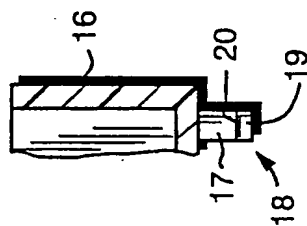
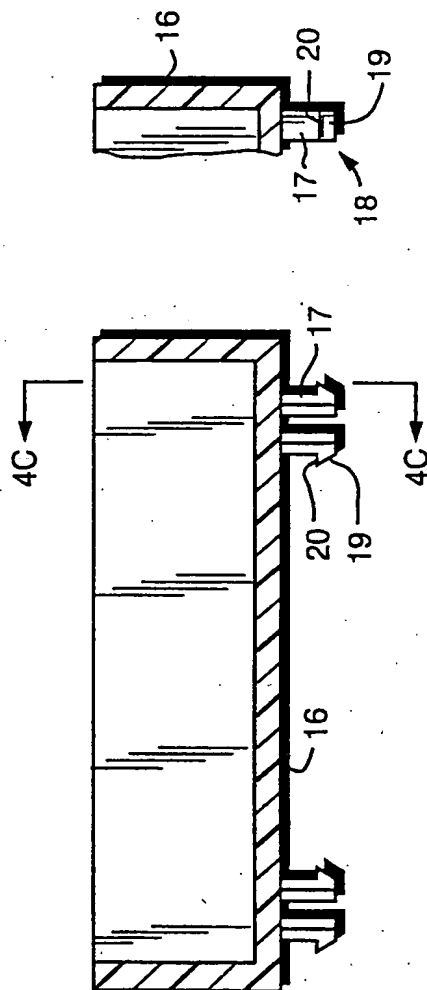
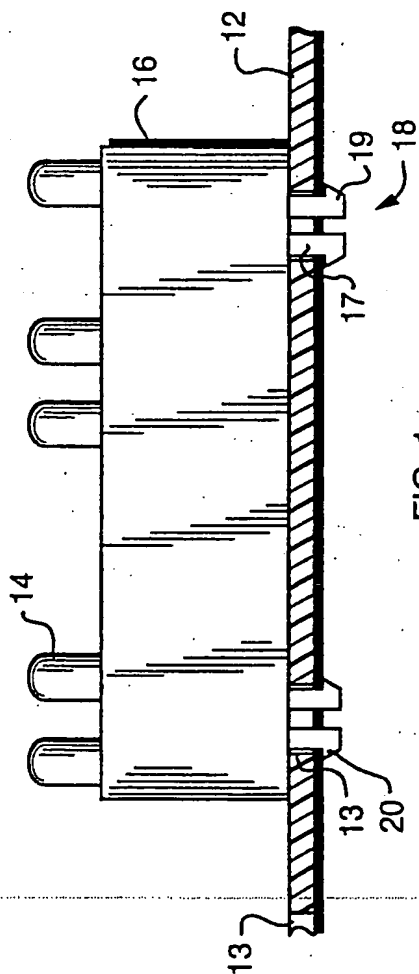
19 ~~7.~~ The assembly of claim 6 wherein said heads each comprise a conical
20 surface (19) for being engaged by said tool.

21 ~~8.~~ The combination of claim 6 wherein said fastening means comprises at
22 least two fingers (17) having partial conical surfaces (19), and the holes (13) in the
23 structure (12) and the opening (24) of the tool (22) are both circular.

24 ~~9.~~ The combination of claim 6, wherein said fingers (17) also include surfaces
25 (20) for extending out of said predetermined holes (13) and engaging said structure
26 (12) when said fingers penetrate said holes.

27 ~~10.~~ The combination of claim 6, wherein the heads (18) of said fingers (17)
28 each comprise a conical surface (19) for being engaged by said tool (22) and a
29 shoulder (20) for engaging said structure (12) when said fingers (17) penetrate said
30 predetermined holes (13).

1 ~~11.~~ The combination of claim 6, wherein each said head (18) comprises a
2 plurality of shoulders (20) for engaging said structure when said fingers (17) penetrate
3 said predetermined holes (13), said shoulders (20) being separated by spaces (26) for
4 permitting said heads to collapse to a size smaller than said predetermined holes (13)
5 when said tool (22) engages said heads whereby to disengage said shoulders (20) from
6 said structure (12).



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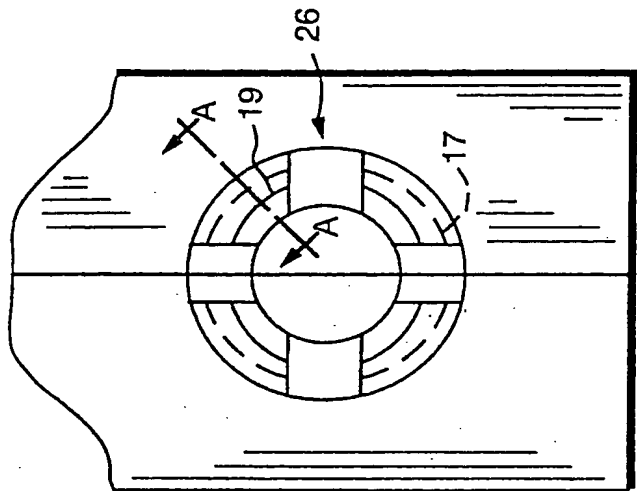


FIG. 3

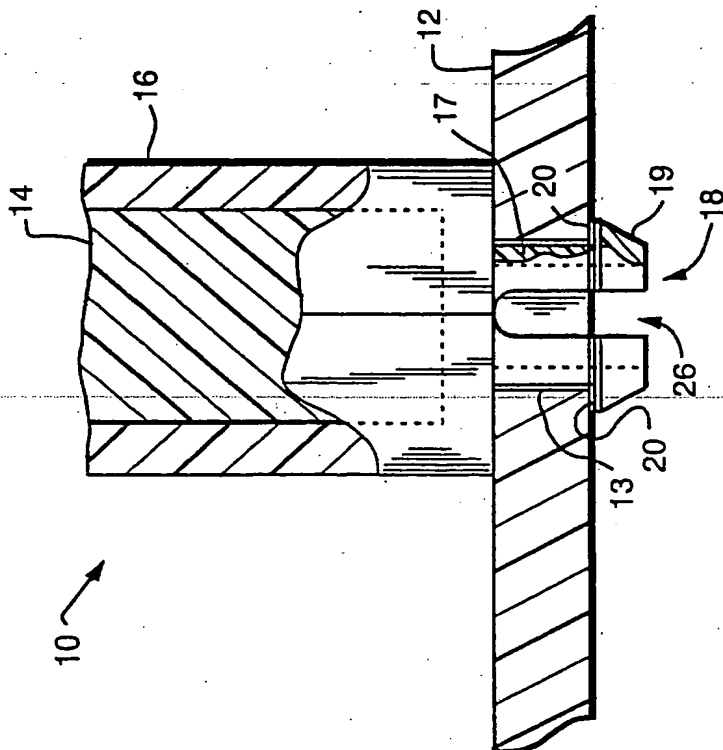


FIG. 2

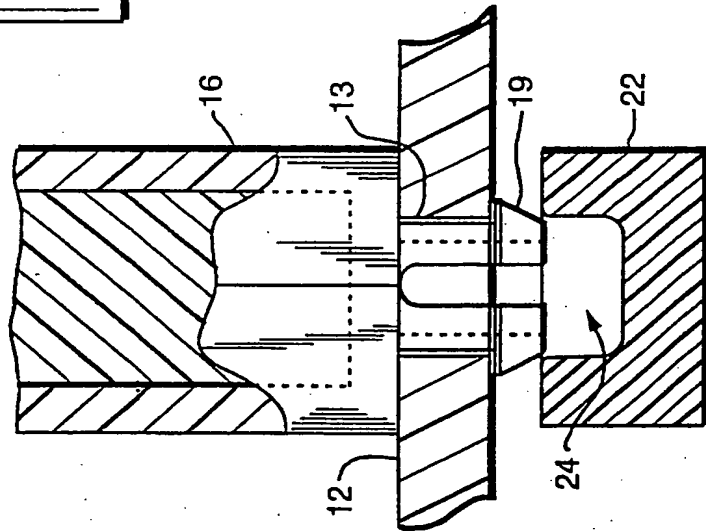


FIG. 5